

Montana Driver Education and Training

Strategies for Driver Distractions



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M17 Distractions - 1

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Standards and Benchmarks

1. Laws and Highway System

- a. know proper visual skills for operating a motor vehicle
- b. communicate and explain proper visual skills for operating a motor vehicle
- c. consistently demonstrate knowledge and understanding by responsible adherence to highway transportation system traffic laws and control devices

2. Responsibility

- a. recognize the importance of making safe and responsible decisions for owning and operating a vehicle
- b. demonstrate the ability to make appropriate decisions while operating a motor vehicle
- c. consistently display respect for other users of the highway transportation system
- d. develop habits and attitudes with regard to responsible driving

3. Visual Skills

- d. develop habits and attitudes with regard to proper visual skills

4. Vehicle Control

- b. develop habits and attitudes relative to safe, efficient and smooth vehicle operation.

5. Communication

- a. consistently communicate their driving intentions (i.e., use of lights, vehicle and personal signals)
- b. adjust their driver behavior based on observation of highway transportation system and other users
- c. adjust communication (i.e., use of lights, vehicle and personal signals) based on observation of highway transportation system and other users
- d. develop habits and attitudes relative to effective communication

6. Risk Management

- a. understand driver risk-management principles
- b. demonstrate driver risk-management strategies
- c. develop driver risk-management habits and attitudes

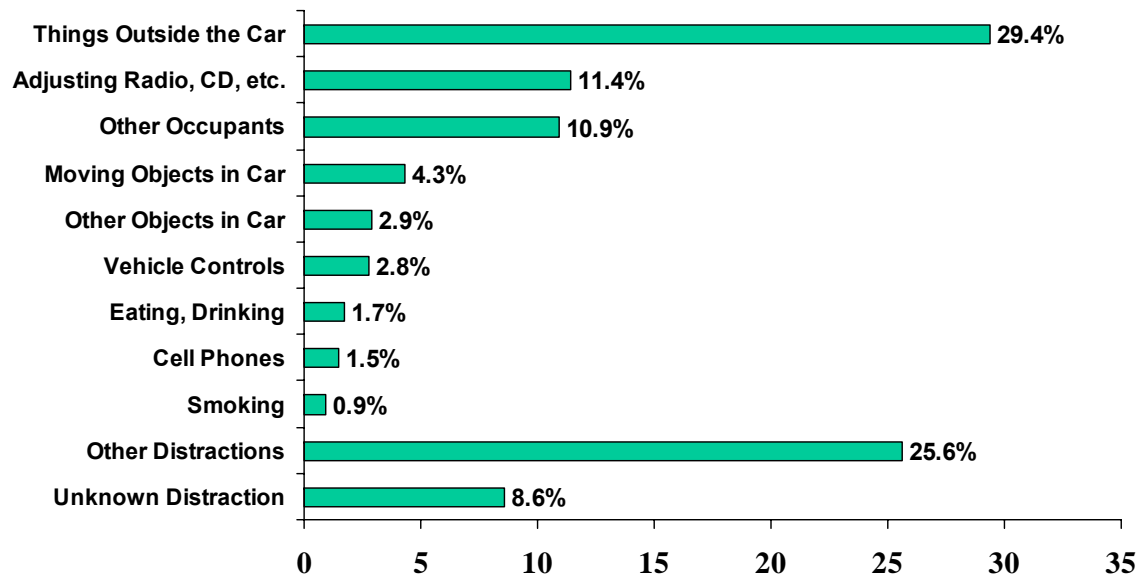
7. Lifelong Learning

- a. understand past, present and future vehicle and roadway design, and driving cultures
- b. describe past, present and future motor vehicle laws
- c. understand benefits of a lifelong learning approach to driving
- e. identify opportunities for lifelong education in driving



Driver Distractions

- Each year, more than 40,000 people are killed in motor vehicle crashes and over three million are injured
- Research indicates that driver distraction is a contributing factor in more than 25% of all crashes



DRIVER DISTRACTIONS—Outside the Vehicle

- **Vehicle swerved into lane**
- **Driver changed lane into path of travel**
- **Traffic slowed or stopped**
- **Driver encroached into lane**
- **Emergency vehicle**



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DRIVER DISTRACTIONS—Outside the Vehicle



- Bright vehicle lights
- Billboards and signs
- Driver being chased by police
- Officer directing traffic
- Animal in roadway (deer, dog, elk, cow, etc.)



DRIVER DISTRACTIONS—Outside the Vehicle

- Sunrise, sunset
- People in roadway (child, basketball game, crowd, etc.)
- Objects in the roadway (broken glass, garbage can, holes, etc.)
- Crash scene



Photo courtesy of the AAA Foundation



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DRIVER DISTRACTIONS—Outside the Vehicle

- Road construction
- Hills
- Trees
- Bicyclist
- Vision obstructed
- Tire blowout



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DRIVER DISTRACTIONS— Inside the Vehicle

- Eating or drinking
- Other occupants in the vehicle
- Moving object in vehicle
- All actions involved with smoking can be a distraction



DRIVER DISTRACTIONS— Inside the Vehicle

- Dialing, talking or answering a cell phone
- Adjusting radio, cassette, or CD
- Using device/object in the vehicle
- Using vehicle devices or controls
- Picking up a dropped object



Photo courtesy of the AAA Foundation



Problems with Driver Distractions are not New

Some of the classic distractions that continue to cause problems are:

- Insects or bugs that find their way into the vehicle
- Children and babies
- Radios and audio players
- Drinks
- Cigarettes



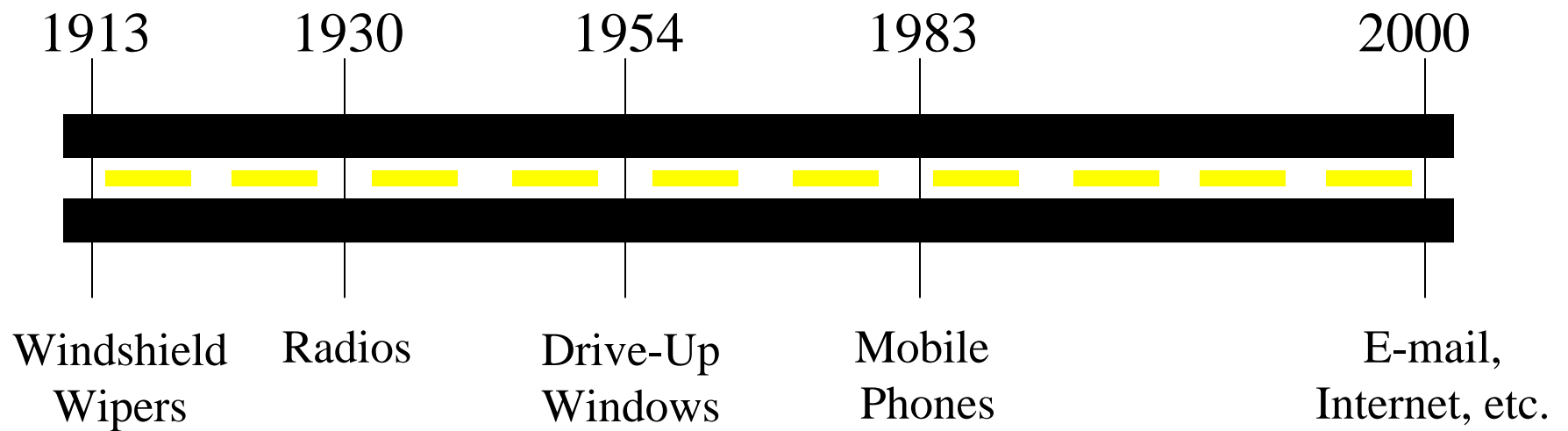
Problems with Driver Distractions are not New

- “Newer” distractions include GPS navigation systems, CDs, pagers, and cell phones



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New Issue or Old Issue?



- **Driver Distractions from 1913-2000**



Driver Age Group Distractions

- Drivers under age 20 are more likely than older drivers to be identified as distracted at the time of their crash
- 20-29-year-olds use a cell phone frequently
- 30-49-year-olds eat and drink
- 50 plus drivers are more distracted by outside objects and events

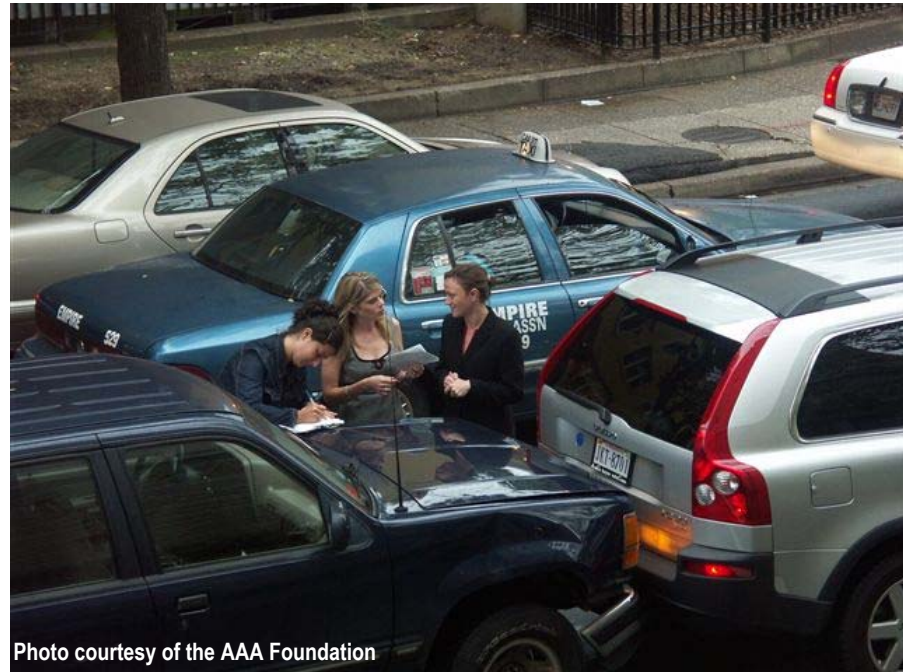


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When Distractions Lead to Collisions

- Distractions and inattention caused 68% of rear-end crashes
- Other typical crashes include backing up, making lane changes, and merging



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High Risk Driving Distractions

- Reading and writing
- Manipulating vehicle controls for extended periods of time
- Focusing on an external distraction
- Having emotionally charged discussion with passengers
- Reaching for objects inside their vehicle
- Dialing a cell phone
- Carrying on a cell phone conversation
- Performing grooming activities when their vehicle was moving



When Distractions Lead to Collisions

High risk drivers tend to have higher levels of:

- No hands on the steering wheel
- Their eyes directed inside rather than outside the vehicle
- Their vehicles wander in the travel lane or cross into another travel lane

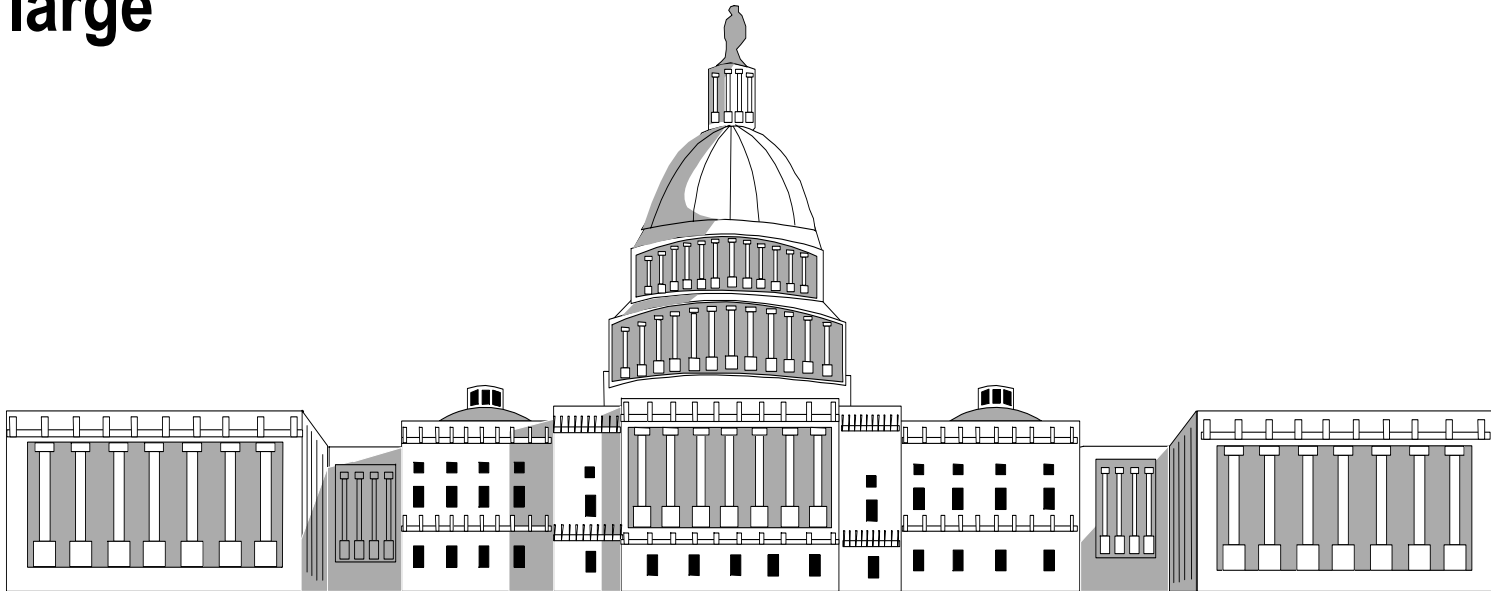


Distractions are Affecting Driver Laws

- Driver distraction, and its effect on hazard recognition and vehicle control, has been a prominent topic on highway safety agendas, as well as for the U.S. Congress, state legislatures, the media, and the public at large



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Distractions are Affecting Driver Laws

- Much of this attention stems from the enormous increase in cellular telephone use by drivers, and the prospect of similar growth in other in-vehicle technologies

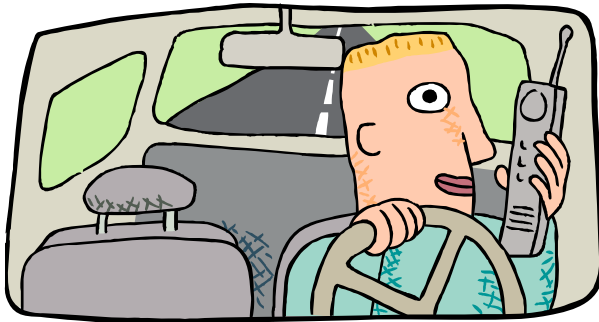


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New Vehicle Technology — Helpful or Harmful?

- Drivers must use new and developing technology responsibly while driving
- Electronic devices can enhance safety
- When stuck in traffic, using a mobile phone to say you'll be late can reduce stress and make drivers less inclined to drive aggressively



New Vehicle Technology—Helpful or Harmful?

- Vehicle navigation systems help drivers locate addresses and guide them to their destination
- Wireless Internet and messaging are becoming popular
- In-vehicle DVD movie players are popular for passengers to pass time when going on a lengthy trip
- Are movies a distraction for drivers?



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Critical Driver Behaviors for the Driving Task

- Path of travel — it is crucial to keep a car within the lane of travel
- Line of sight — allows the driver to see far enough ahead to have the time and space needed to make speed and position adjustments



Critical Driver Behaviors for the Driving Task

- Operating a vehicle requires coordination of skills
- Eye, hand and foot coordination
- Repetitive actions must be used
- Procedural tasks must be accurate



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DIVIDED ATTENTION TASKS

- Driving a vehicle is a mental process
- A mental driving system is needed to manage time and space



DIVIDED ATTENTION TASKS

- Drivers must search for and recognize when there is a line-of-sight or path-of-travel restriction
- Drivers must respond with appropriate:
 - Speed adjustments
 - Position adjustments
 - Communication of intentions



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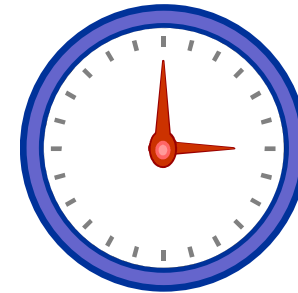
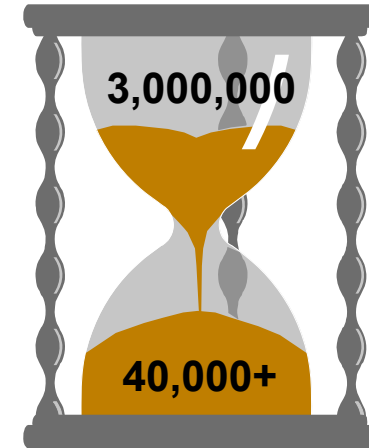
Consequences of Distracted Driving

- Distracted driving is one of the leading causes of collisions
- Inattentive drivers are forced to make sudden decisions which can easily cause a collision



Consequences of Distracted Driving

- Each year, more than 40,000 people are killed in motor vehicle crashes and over three million are injured
- Distracted driving contributes to over 1,500,000 collisions each year
- That's 4,300 collisions each day
- There are 179 collisions every hour



Divided Attention Tasks

- Divided attention can lead to missed brake lights, missed traffic signs or signals, missed animals or pedestrians, or a drift out of the lane position



Photo courtesy of the AAA Foundation



Divided Attention Tasks

- A driver can learn to operate the vehicle with simple eye, hand and feet coordination
- However, the driving task is a mental process that needs constant attention to the path of travel in order to keep the vehicle within the lane space and adjust to any restrictions in the path of travel



Divided Attention Tasks

- It is important to recognize that taking attention from the path of travel means the vehicle is moving on the roadway without the driver seeing where the vehicle is going or mentally processing any new information



Divided Attention Tasks

- It is critical never to look away from the path of travel for more than $\frac{1}{2}$ second at a time without moving visual and mental attention back to the path of travel



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How Distractions Happen

- Drivers must decide what is crucial for the decision to change speed, change position on the road, or communicate
- If the driver gets too much information to be processed, the driver:
 - ▶ Panics
 - ▶ Shuts down the important process of predicting and deciding
 - ▶ Reacts abruptly without planning appropriate speed, position, or communication



How Distractions Happen

- One of the reasons crashes happen within an area close to home is the driver learns to anticipate speed, signals, signs and the roadway
- When a distraction happens, the driver is often not prepared mentally to see developing hazards



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Divided Attention Tasks

- Distractions are a bigger challenge for a new driver than an experienced driver who has learned how to divide attention to tasks
- Dividing attention from the path of travel to check speed, check mirror, check lane position, and check radio are all learned activities



Learning to Drive

Learning how to Handle Distractions

- Be able to keep the vehicle in the planned path of travel while checking speed
- Be able to adjust speed and lane position while checking for pedestrians, animals or bicyclists
- Use turn signal, check mirrors, brake, accelerate, move left or right, and check speed



Learning to Drive

Learning how to Handle Distractions

Drivers must control divided mental and visual attention to the target and dashboard, examples include the target and:

- intersection controls
- intersection entry and exit
- entry, apex, and exit to a curve



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Learning to Drive

Learning how to Handle Distractions

- Learning to drive involves learning how to develop divided attention to different tasks
- Know how to operate the vehicle controls
- Be able to keep the vehicle on the road
- Be able to keep the vehicle in the lane
- Be able to place the vehicle in different lane positions
- Be able to place the vehicle in the lane to avoid risk



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Understanding Divided Attention

- **Complicated visual or mental tasks divide our attention into smaller and smaller bits of information that the brain can process**
- **What does a computer do when there are too many bits of information to process?**



Understanding Divided Attention

- What can drivers ask of passengers when they drive in a new city or have too much information to process?
- What have you noticed other drivers do when they are not paying attention to driving?



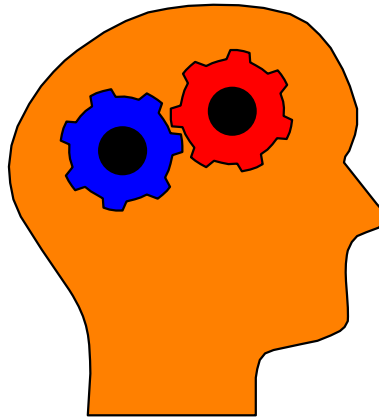
Understanding Divided Attention

- What would happen if you were juggling three balls and someone suddenly threw a fourth one or suddenly called out your name?
- With complicated visual and mental tasks, the human brain slows down, misses a problem (crashes), or fails to identify a major hazard



Learn to Divide Attention Between Tasks

- There is evidence that a driver can handle a maximum of seven different activities and still keep mental control of the driving process
- Most drivers will have problems or incidents if the activity level gets above seven requirements for visual or mental attention
- New drivers often have this situation occur at the start of learning to drive



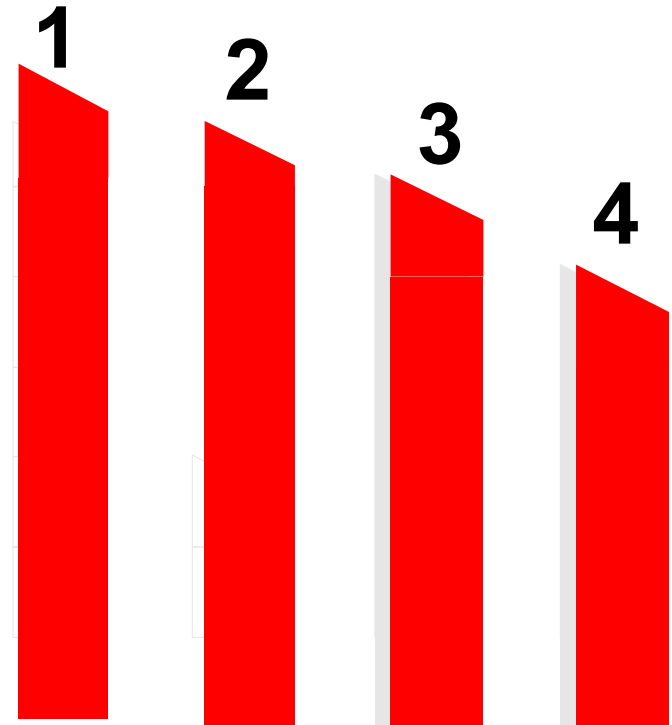
Learn to Divide Attention Between Tasks

- When drivers try to watch everything it is difficult to keep a proper speed and lane position, due to over stimulating the eyes and the brain
- Due to training and experiences, many drivers operate at different levels of precision performance of skills and reduced-risk decision-making



Know the Conditions of the Levels of Driving

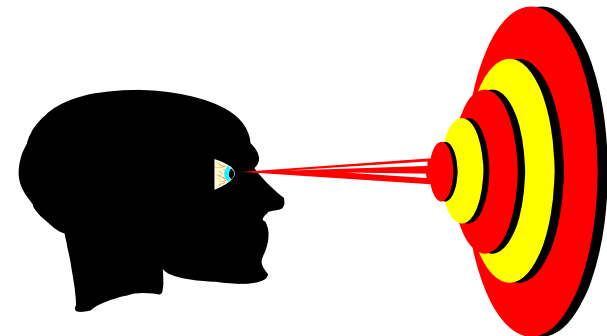
- **Level One**
Automatic, ok behavior (by habit without thought)
- **Level Two**
Conscious, ok behavior (with thought)
- **Level Three**
Conscious, not ok behavior (with thought)
- **Level Four**
Automatic, not ok behavior (by habit, without thought)



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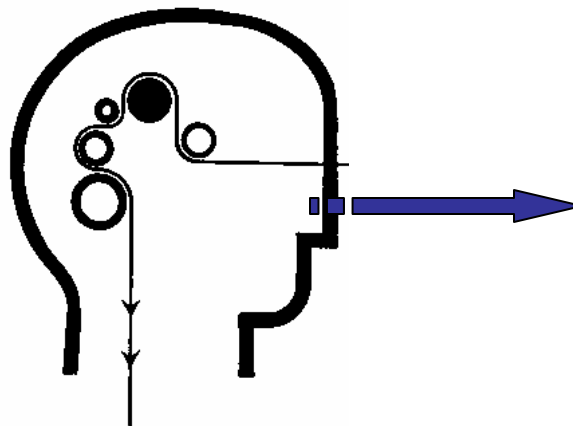
Using a Mental System to Divide Attention

- Developing the mental process by using a driving system will help develop the visual and mental divided attention tasks
- To learn divided attention tasks a driver starts with one visual and mental activity, then adds other activities to a driving system to mentally manage the space and time around the vehicle



Using a Mental System to Divide Attention

- Using a mental driving system allows the driver to develop a habit of using the eyes to search for the information that the brain needs to process
- A driving system allows the driver time to evaluate the path of travel and the line of sight for problems, so that time is available to execute a change in speed or position and communicate intentions to others



Reducing Divided Attention Tasks

- Perform needed tasks inside the vehicle when stopped
- Look away from the path of travel for no more than $\frac{1}{2}$ second intervals
- Glance at a distraction several times rather than one long stare for more than $\frac{1}{2}$ second
- Ask passengers for help when situations dictate the need to divide attention among multiple potential hazards



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REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Be familiar with the equipment in the vehicle, such as the climate controls and audio system
- Be comfortable and familiar with the cell phone features before taking it on the road



REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- A "hands-free" apparatus may be helpful, but it can't prevent drivers from becoming involved in a conversation and losing concentration
- If you must use the cell phone, safely pull over to the side of the road
- If drivers must respond to an emergency while driving, use speed dial features and a hands-free kit
- Alert the caller that you are on the road
- Keep calls as brief as possible



REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Practice before driving so you can perform basic functions without taking your attention off the road
- This is especially important if you have a new phone or unfamiliar vehicle



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REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Make sure children are comfortable and properly buckled up
- To keep children from distracting the driver, provide them with safe items they may need for the road trip



REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Give yourself a break from the traffic and enjoy your refreshments
- Someone choking on food or spilling liquid in the vehicle can take the driver's attention off the road
- Check the route before departing
- If unfamiliar with the destination, study a road map to plan the route



Photo courtesy of the AAA Foundation



REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Avoid reading while driving
- Finish grooming before driving
- Don't rely on the time in your vehicle to take care of personal routines such as applying makeup, combing hair or shaving



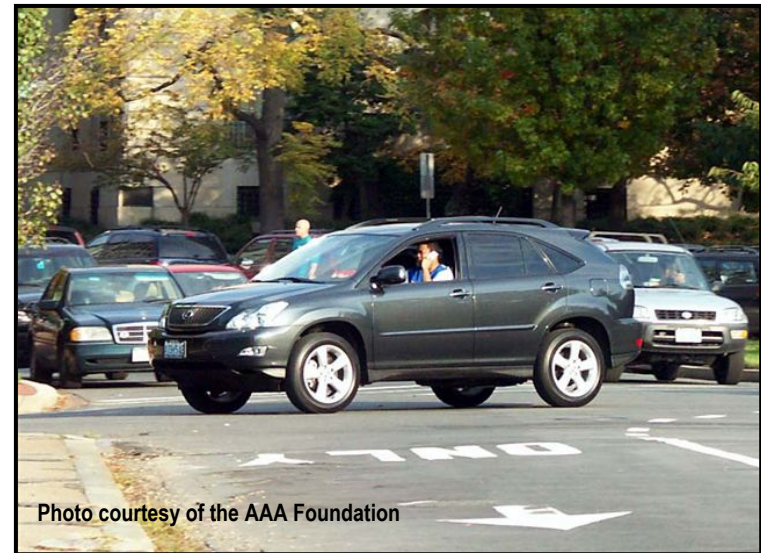
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REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Avoid emotionally charged conversations, either with passengers or on a mobile phone
- Emotional discussions can lead to aggressive or erratic driving behavior



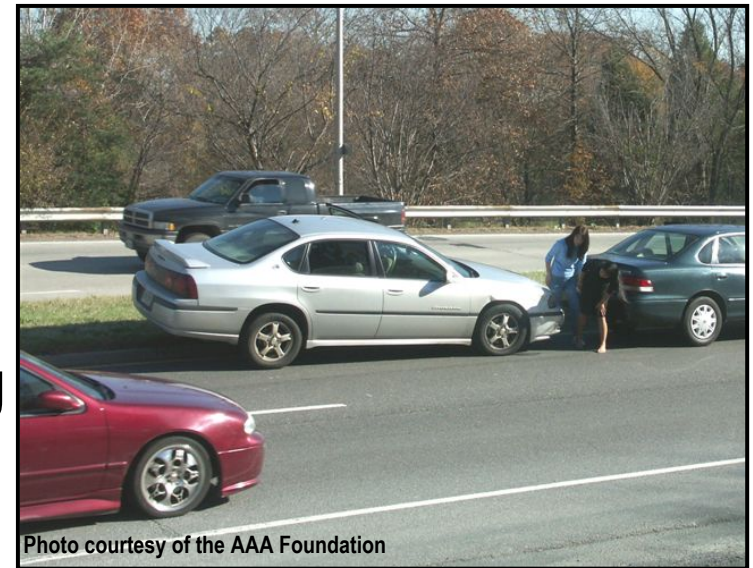
REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Never take notes while driving
- Find a safe place to stop before writing things down
- Stay focused and pay attention
- Limit interaction with passengers
- Avoid talking while driving
- Avoid taking your eyes off the road
- Keep both hands on the wheel
- Avoid driver fatigue



REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- Stay focused on the road
- Don't daydream
- Don't drive if you are tired
- Share the driving responsibilities on long trips
- Avoid driving when angry or upset
- Emotions can interfere with safe driving
- Wait until you have cooled down or resolved problems to drive
- Avoid "gawking," or slowing down to look at a crash or other activity



REDUCED RISK STRATEGIES TO HANDLE DIVIDED ATTENTION TASKS

- As a new driver, keep 100 percent of attention on driving until reduced risk driving habits are performed at Level One, the unconscious, okay behavior



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